DOCUMENT RESUME

ED 266 501 CS 505 153

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TITLE An Applied Examination Technique for Public Speaking Classrooms.
PUB DATE 2 Nov 84
NOTE 15p.; Paper presented at the Annual Meeting of the Speech Communication Association (70th, Chicago, IL, November 1-4, 1984).
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Evaluation Methods; Higher Education; Program Descriptions; Program Development; *Public Speaking; *Speech Communication; Student Attitudes; Teaching Methods; *Test Construction; *Testing Programs

ABSTRACT

In an ongoing experiment in the basic public speaking course at Miami University (Ohio), an attempt has been made to devise a testing approach that preserves the viability of the evaluation process and, at the same time, is efficient to administer and acceptable to students as a measure of what they have learned while performing. The alteration of the traditional multiple choice mid-term and final examinations was based on a pilot project in which students in one section viewed three 2-4 minute videotaped speeches and answered 50 multiple-choice questions about what they had seen. Essentially this exam covered the same theoretical material as did the departmental exam, but did so in a more clearly applied manner. Student evaluations of the videotape exam indicated a significantly higher level of satisfaction with this exam than with the traditional departmental exam. Implementing the project on a department-wide basis required three broad steps: developing a pool of videotaped speeches representing a variety of speech types, generating a pool of questions based on theoretical material taught in the course for each form of public address, and testing the examination in a pilot classroom. Problems posed by this approach include the time required for conversion to a videotape exam format, scheduling around a limited number of videotape players, and the suitability of this approach to other universities. The advantages include student satisfaction, increased understanding of the process nature of communication, the energy saved by speech instructors and other faculty subjects with a practical orientation, and the long-term retention and higher levels of cognitive learning tapped through a visual teaching technique. (HTH)

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# AN APPLIED EXAMINATION TECHNIQUE FOR PUBLIC SPEAKING CLASSROOMS

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November 2, 1984 Chicago, Illinois

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AN APPLIED EXAMINATION TECHNIQUE FOR PUBLIC SPEAKING CLASSROOMS

In the recent discussion of competencies in the communication discipline, most contributors to the journals would agree with the position developed by Gerald Phillips:

To improve performance, teachers must connect their classroom activity with the future life activity of their students. The context in which students will eventually operate shapes their speech performance requirements. The problem is to find bases for evaluation that will generate bases for improvement. [1]

Unfortunately, while objectives of the classroom instructor in communication may be understood, the assessment of intellectual activities which take place in the classroom is not as readily ascertained. Test construction guidelines and recommendations have been discussed at length in numerous and varied educational resources. However, for the performance-oriented classroom instructor, most of these guidelines offer conclusions which cannot be directly applied in assessing students' understanding of the application of of theoretical principles. Even innovational performance and content oriented programs rely on traditional pencil-and-paper examinations for measuring student learning. [2] Innovational developments need to be pursued in order to help reinforce the learning occurring in the performance oriented classroom without sacrificing the consistency, reliability, and efficacy in the examination process. In an ongoing experiment in the basic public speaking course at Miami University, an attempt has been made to devise a testing approach which preserves the viability of the evaluation process and, at the same time, is efficient to administer and acceptable to students as a measure of what they have learned while performing. This report will follow several major focii: description of the problem, a definition of the method used, implementation of the innovation in a classroom setting, and assessment of the technique.

Description of the Problem

The large multi-sectioned course in basic public speaking offered at Miami University is taught by numerous graduate teaching assistants, part-time faculty and junior faculty. The course is governed by the department faculty and consistency of

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1. Gerald M. Phillips, "A Competent View of "Competence," COMMUNICATION EDUCATION 33 (1984), 30.

2. Larry D. Miller, "Assessing Instructional Media in the Classroom," COMMUNICATION EDUCATION, 32 (April 1983), 267-271.

quality among sections is the goal of the governing policies. In addition to a common syllabus, common textbook, currently the 9th edition of Ehninger, Monroe, and Gronbeck's PRINCIPLES AND TYPES OF SPEECH COMMUNICATION, and common assignment guidelines, there is a common multiple choice mid-term and final examination based upon the textbook material. The purpose of the common examinations is both to provide the necessary consistency in the course to justify its being a requirement for much of the University [3] and to ease the teaching burden especially on graduate teaching assistants in a one-year M.A. program. A prepared departmental examination saves the teaching staff time in developing the exam, testing its reliability and, since the exam has traditionally been computer scored, grading the results. Problems with consistency of instruction, content, and assessment of student performance in the basic public speaking course have been quite successfully dealt with in the past several years. However, student evaluations of the course indicate that a gap still exists between the performance nature of the course and the theoretical material upon which the mid-term and final examinations are based. The nature of this gap is indicated by the level of satisfaction with testing revealed by students on course evaluation forms administered regularly each semester. The average rating for each of the categories listed on the evaluation form for 56 sections of the basic course (1506 students) taught by 27 faculty and graduate student instructors for the past 4 semesters (Spring 1982 through fall 1983) is summarized in the following chart:

| Item rated | Average rating for 56 sections* |
|---|---|
| 1. In general, how would you rate this instructor as a teacher? | 2.74 |
| 2. How would you rate the evaluation and testing of students in this course? | 1.98 |
| 3. How would you rate this course in terms of its organization, clarity of objectives and directions? | 2.81 |
| 4. How would you rate the interest, enthusiasm, and stimulation the instructor brings to this course? | 3.16 |
| 5. How would you rate the instructor's | 2.82 |

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3. Richard L. Weaver II, "The Multi-section Basic Speech Communication Course: Consistency, Continuity and Credibility," THE OHIO SPEECH JOURNAL, 21 (1983), 83-4.

manner of presentation and ability to explain in a clear and understandable fashion?

6. How would you rate the instructor's attitude toward students (concern, interest, respect)? 3.08

* All ratings are based on a 4.0 scale in which 4.0 = excellent, 3.0 above average, 2.0 = average, 1.0 = below average, 0.0 = poor. This evaluation form is routinely used in the College of Arts and Sciences at Miami University for purposes of obtaining student feedback on course instruction.

It is clear from this summary of student reactions that testing and evaluation lags far behind the rest of the course from the student's perspective. Comments recorded in a section of the evaluation form asking for students to expand on their numerical ratings reveal consistently that student see the examinations as completely unrelated to their learning in the course. Sample comments which summarize the bulk of the student input are:

"I enjoyed this course more than I thought I would at first. My instructor helped me to improve so that even my Management professor noticed it in my reports in his class. The only thing that could be improved is the exams. They're picky and not really relevant to what we did in class." (Section B, spring 1982)

"The Exams have to go!" (Section E, spring 1983)

"I didn't feel I was being graded on what I could do but on what the textbook said (in reference to the exams)." (Section U, fall 1982)

The initial response to this perceived gap between classroom performance and evaluation was based on the assumption that students did not understand the course objectives. As a result, for two semesters an attempt was made to present the mid-term and final examinations in better light, i.e. as pertinent to the student's interests and performance. The results of the evaluations of those two semesters remained consistent with the previous student evaluations of the examinations. In sum, students do not perceive that the examination of theory via traditional pencil-and-paper tests is reflective of what they have actually learned in the course through their performance.

Definition of the Method Used

The alteration of the traditional examination is based on a pilot project conducted in one randomly chosen section of the basic course in the spring of 1983. Instead of taking the

regular exam shared by the departmental staff, this section took an experimental exam. They viewed three videotaped speeches, 2-4 minutes in length, and answered 50 multiple choice questions about what they had seen. Essentially this exam covered the same basic theoretical material as the departmental exam but did so in a more clearly applied manner. That is, instead of being asked to recall information or to use it to solve a hypothetical/story problem, the students actually saw the principles applied by videotaped speakers. At the end of the semester, evaluations of the course were again administered to each section in the same manner as in previous semesters. A significantly higher level of satisfaction resulted among students in response to this exam even though it proved to be as stringent as the departmental exam. Evaluations remained unchanged in the sections of the course taking the traditional examination. The following data summarizes the results:

| Item rated | Average rating for pilot section* |
|---|---|
| 1. In general, how would you rate this instructor as a teacher? | 3.72 |
| 2. How would you rate the evaluation and testing of students in this course? | 3.55 |
| 3. How would you rate this course in terms of its organization, clarity of objectives and directions? | 3.38 |
| 4. How would you rate the interest, enthusiasm, and stimulation the instructor brings to this course? | 3.55 |
| 5. How would you rate the instructor's manner of presentation and ability to explain in a clear and understandable fashion? | 3.50 |
| 6. How would you rate the instructor's attitude toward students (concern, interest, respect)? | 3.83 |

* All ratings are based on a 4.0 scale in which 4.0 = excellent, 3.0 = above average, 2.0 = average, 1.0 = below average, 0.0 = poor.

While the average rating of the examinations in this pilot section of the basic course increased significantly, student perceptions in the traditional sections of the course did not alter. Similar written comments to those cited previously occurred, while in the pilot section a difference was clearly

noted. Students either did not comment at all about the exam or they commented positively. If the results of this pilot can be generalized, it is expected that the videotape examination will reduce the students' perception of the examination as alien to their experiences in the classroom. Typical comments received from the pilot section evaluations are:

"In my opinion, there were not any noticeable weaknesses in the course or her (instructor's) teaching methods. A strength of this course was the videotaped examples of speeches and speaking techniques and the practical applications of them."

"I think the instructor taught me many things which will benefit me in the future. The video-taping of the speeches is a great idea for the tests!"

"Even the midterm was a learning experience for me, I know that by writing the midterm I reenforced much of what I had learned or read."

No negative comments regarding the examinations were recorded on the evaluation forms. Twenty-four students were enrolled in this pilot section and twenty-three completed evaluation forms. Grades for the videotape based examination fell within the same range as for the traditional examination. The mean for the videotape based examination was 75.4 while the mean for the traditional examination was 76.7; the range was 42 and 40.

IMPLEMENTATION

This project requires three broad steps for implementation. First, a pool of speeches (2-8 minutes in length) representing the variety of speeches covered in the course (informative, demonstrative, persuasive, etc.) must be developed and videotaped. [4] In this case, members of the Miami University Forensics Team volunteered to memorize and deliver the speeches for taping thus ensuring that the quality of the speeches would be relatively consistent. Necessary taping and editing facilities were available on the University campus but scheduling and taping as well as editing required a minimum of 7 weeks. In total, 15 speeches were produced for the beginning of the test pool. It is expected that additional speeches will be added during each succeeding semester and that approximately 30 speeches will be sufficient for rotation every other semester. Seven speeches are used each semester to represent the seven major forms of address studied; ideally, these speech examples

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4. James G. Hoglin, "Video Cassette Instruction for the Under-Budgeted School Program," COMMUNICATION EDUCATION, 31 (October 1982), 357-360.

will not be used again for 2-3 semesters. This means that 3-4 videotaped examples of each form of speech are required for the pool. In addition, back-up copies of each tape will be needed in case originals are mistakenly erased, lost, or several copies are used simultaneously.

The second step in the process requires generating a pool of questions based on theoretical material taught in the course for each form of public address. For example, if the informative speech teaches organizational patterns and forms of supporting material, then the pool of questions for the videotaped speech should reflect this emphasis. As test items are used in the classroom, ineffective items will be dropped and replaced by new items. In effect, the original pool of questions should expand and become more varied as it is used. At this stage, part-time faculty and graduate students can generate additional questions to be tested for the pool of items on each videotaped speech.

Good test construction should be observed during this stage of the development of the innovative exam. Traditional recommendations concerning the format whether it is essay, multiple choice, or short answer are helpful in constructing the item itself. According to Collins, Johansen, and Johnson, for example, the follwing 6 steps are essential in planning an examination: (1) determine what should be measured or the objectives of the examination; (2) prepare a list of the general subjects which the exam is to cover; (3) determine the relative importance of each of the general subjects listed and then assign weights to those subjects in their order of importance; (4) determine the cognitive, affective, and psychomotor competencies which the student should have learned in connection with the major subjects; [5] (5) choose the kind of test items which are most appropriate to the purpose of the examination or, in this case, decide on the kind of example speech you need to record in order to evaluate student learning effectively; and (6) acquire the instructional materials on which the test items are to be based. [6]

Testing theory reveals that several formats for questions are quite acceptable. If the departmental exam is flexible (that is, open to essay questions one semester and multiple choice questions the following semester) then several formats may be

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5. James C. McCroskey, "Communication Competence and Performance: A Research and Pedagogical Perspective," COMMUNICATION EDUCATION, 31 (January 1982), 2-7.

6. Harold Collins, John H. Johansen, and James A. Johnson, EDUCATIONAL MEASUREMENT AND EVALUATION (2nd. ed.: Glenview, Ill.: Scott, Foresman, and Co., 1969), pp. 17-18.

added to the pool. In keeping with the goal at Miami University of reducing the work load on part-time and graduate teaching instructors, essay questions are avoided in favor of multiple choice questions which can be quickly computer scored. In addition, multiple choice exams can be easily compared across sections without introducing the problems of grader bias as easily. This provides a method for checking the ability of each text item to discriminate. Items can be eliminated very quickly amd accurately using the multiple choice format with statistical evaluation made available through computer scoring. If further streamlining of the test construction process is desired, all items can be entered on computer diskettes for easy access and sorting. Since this was already the proceedure developed for departmental examinations in the basic courses at Miami, the process of altering the traditional examination was somewhat simplified. [7]

In order to make record-keeping for each item as easy and valuable as possible, all correct answers were indicated for each item as well as page numbers in the text which clearly explained each answer. Keys for individual instructors can be compiled quickly from this information and students' questions about individual items can also be handled with efficiency.

The differences between the traditional multiple choice exam item and the videotape based exam item are clarified when examples of the questions relevant to each kind of exam are compared. A series of sample questions from the traditional exam used prior to the pilot project are included along with examples of items from the videotape based exam at the conclusion of this paper.

The third phase of the project required testing the examination in a pilot classroom before implementing it for the entire multi-sectioned course. As indicated previously, a section of the course was randomly chosen in the spring semester of 1983. Distribution of scores and further analysis of the individual items on the exam used in the pilot section revealed that no significant differences existed between this exam and the traditional examination while the videotape based exam was perceived much more favorably by students than the traditional examination. In light of this success, all of the sections of the basic course in public speaking will use the videotape based examination in coming semesters.

Assessment

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7. Robert Toscani, "Generic Tests," COLOR COMPUTER (January 1984), 102-107. Several commercial programs for test construction are also now available.



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While the advantages of this innovative approach to examinations are clearly the time saved for the teaching staff, the satisfaction generated among students and the maintanenence of high quality testing standards, a number of potential limitations exist in such an approach. Several are outlined here:

First, the time necessary to make the conversion from a traditional system of testing to a videotaped approach is approximately 12-15 weeks. The work must be completed before the testing system can be utilized and in most cases will require that the course director devote his/her time to the project. In the case where the course director is already burdened with additional more compelling projects, this investment of time will prove prohibitive. Sometimes a viable alternative is to supplement the traditional exam with a videotape based component requiring a smaller investment of time and energy.

A second problem involves facilities. If multi-sectioned courses have common exam dates, numerous videtape playback machines must be available or an alternate method of presenting the audiovisual material will have to be developed. Several possibilities present themselves: (1) audio recordings might replace videotapes if audio playback machines are more readily available, (2) exams could be staggered during a day or week-long time period so that each section could view the videotaped material, or (3) larger examination rooms could be used to accomodate several sections during the examination. In any case, more than a few sections of the basic course requires advanced planning but then, most course directors are creative when it comes to logistics.

Finally, the generalisability of the experience at Miami University to a different situation may be problematic. Depending upon the nature of the basic course and its administration, other variables may affect the desirability of altering the examination process.

ADVANTAGES

The immediate results of this innovation include the more positive atmosphere in the undergraduate classroom. [8] The examination based on concrete experiences is much more

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8. Wilbert J. McKeachie, TEACHING TIPS (7th ed. Lexington, Mass.: D.C. Heath and Co., 1978), p. 147.

9. Wilbert J. McKeachie, TEACHING TIPS (7th ed. Lexington, Mass.: D.C. Heath and Co., 1978), p. 159.

interesting than an exam based on abstractions. [9] Students will see that textbook theory is applicable in situations which resemble the ones they have experienced in class. This should not only reinforce the theoretical material they have covered in the text, but will also have the additional benefit of providing models for them to imitate in their own speaking efforts, as well as stressing the importance of listening skills. The ultimate purpose, to increase the learning of students, should occur along with their satisfaction as they realize the examination process tests their skills in communication. High standards for adequate item discrimination and other measures of instrument reliability will insure that the examinations also offer the instructor a viable means of evaluating student learning.

A second impact is the facilitation of students' understanding of the process nature of communication. Simulation exercises such as the use of videotaped examples enhance the understanding of relationships among variables and the application of principles of cause and effect. [10] Not only is immediate understanding aided, but students will also experience better long-term retention/recall and use of the information in situations outside of the classroom. [11] The simulations of actual speaking situations upon which the videotaped examination is based facilitate assessment of processes and encourage the development of higher mental capacities. Ultimately, the goals expressed by Phillips, among others, can be served well by the use of this innovational texting technique.

A third impact will also be felt by the teaching faculty in the basic course and potentially in other departments across campus, especially those whose subject matter tends to be application oriented. The project should shift the burden on faculty members from test preparation to maintenance of the question pool and addition of model speeches. It should also encourage staff members to become computer literate (if the exam is recorded on computer diskettes) -- a skill they can apply while using the computer to choose exam items and type up final copies. In most departments, videotape facilities can be more efficiently utilized for creative teaching if they are involved in the examination process.

In addition to the practical advantages previously suggested,

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10. Michael J. Rockler, "Applying Simulation/Gaming," ON COLLEGE TEACHING, ed. Ohmer Milton (San Francisco: Jossey-Bass, 1980), p. 292.

11. McKeachie, pp. 149, 159; R.L. Dukes and S.J. Waller, "Towards a General Evaluation Model for Simulation Games," SIMULATIONS AND GAMES, 7 (1976), 75-96.

the literature indicates that long-term retention as well as higher level cognitive learning is tapped through visual teaching techniques. First, there is substantial evidence that memory of recent experiences is image-like and that such memory, referred to as iconic memory, serves as the first stage in a series of mental processes which build long-term memory. [12] Visual aids such as videotape provide the image-like recent experience for the viewer, in this case the student. The student's iconic memory not only stores such information beginning to build long-term memory, but also integrates information and skill, something for which iconic memory is particularly adept. [13] In addition, since most beginning public speaking courses include practical as well as theoretical experiences for students, iconic memory serves another purpose. That is, it is especially vivid if the conditions under which the learning originally took place are repeated. In other words, if an examination repeats or simulates the public speaking experience by providing a taped presentation for analysis, the repetition of the original experience stimulates iconic memory further providing a basis for long-term memory. [14]

Numerous educational psychologists also argue that mental imagery or visualization represent an integration of information. Such imagery transcends basic informational components to provide a more complex idea. [15] Such learning occurs at a higher level in most hierarchies of mental processes, bringing to bear the subordinate thought patterns. [16] For example, if an examination item requires a student to solve a story problem involving a speaking situation, the student needs basic thought patterns such as signal, stimulus-response, chaining, and verbal associations as well as multiple discriminations, understanding of concepts, principles or rules. [17] In this way, the student builds his/her learning in the problem-solving situation on previously learned mental

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12. James L. McGaugh, LEARNING AND MEMORY (San Francisco: Albion Publishing Company, 1973), pp. 37-41.

13. McGaugh, p. 38.

14. McGaugh, p. 52.

15. B.R. Bugelski, PRINCIPLES OF LEARNING AND MEMORY (New York: Praeger Press, 1979), pp. 285, 376-377.

16. Peter Martorella, CONCEPT LEARNING: DESIGNS FOR INSTRUCTION (Scranton, PA.: Intext Educational Publishers, 1972), p. 121.

17. Robert Gagne, THE CONDITIONS OF LEARNING (New York: Holt, Rinehart, Winston Company, 1970).

processes. [18] Testing based on visualization or imagery such as innovative videotape based examinations involves higher level cognitive skills than many other forms of evaluation.

Innovative testing techniques such as the project described in this report offer a number of advantages for both the student and the instructor. In addition, such a technique may contribute to the implementation of communication competence measures in a practical manner.

18. F. Craik and R. Lockhart, "Levels of Processing," JOURNAL OF EXPERIMENTAL PSYCHOLOGY, 104, 1975, 268-294.

## EXAMINATION ITEM EXAMPLES

TESTING OBJECTIVE:
Understanding the speaker's general purpose in speaking

Traditional Item:

A classmate begins her speech by saying, "I've always been fascinated by the tales of unicorns and once I've explained the lore of this mythical beast, you will be too." This speaker's purpose is: (a) to inform (b) to actuate (c) to demonstrate (d) to entertain
Correct Answer: a Chapter 4 p. 67

Videotape Based Item:

The purpose of the speaker you just heard is: (a) to inform (b) to actuate (c) to demonstrate (d) to entertain
Correct Answer: a Chapter 4 p. 67

TESTING OBJECTIVE:
Understanding the speaker's specific purpose in speaking

Traditional Item:

For speechmaking in the classroom setting, the fulfillment of the particular goal for which the instructor has assigned the speech is also its: (a) satisfaction step (b) preview (c) specific purpose (d) presentational method
Correct Answer: c Chapter 3 p. 49

Videotape Based Item:

In the speech you just heard, developing the history and purposes of Amnesty International was the speaker's: (a) satisfaction step (b) preview (c) specific purpose (d) presentational method
Correct Answer: c Chapter 3 p. 49

TESTING OBJECTIVE:
Recognizing the thesis statement

Traditional Item:

The reason for including a thesis statement in a speech is: (a) to help the speaker select the topic s/he wants to talk about (b) to give the speech a provocative title that will be interesting to listeners (c) to identify the nature of the occasion for the speech (d) to capture the essence of the information that the speaker is trying to communicate
Correct Answer: d Chapter 4 p. 69

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Videotape Based Item:

When the speaker on the tape stated his intention of reviewing the history of Amnesty International and its current purposes, he was: (a) adapting to his audience (b) giving the speech a provocative title that would be interesting to his listeners (c) identifying the nature of the occasion for the speech (d) capturing the essence of the information that he was trying to communicate Correct Answer: d Chapter 4 p. 69

TESTING OBJECTIVE:
Understanding the purpose of the speech introduction

Traditional Item:

One of the purposes of an introduction is to establish some sort of relationship with the audience. This is called: (a) creating good will (b) clarifyin the scope of the speech (c) gaining attention (d) satisfying the demands of the occasion
Correct Answer: a Chapter 10 p. 181

Videotape Based Item:

One of the purposes of the introduction to the speech you just heard was: (a) creating good will with the audience (b) clarifying the scope of the speech (c) gaining attention (d) satisfying the demands of the occasion
Correct Answer: a Chapter 10 p. 181

TESTING OBJECTIVE:
Identifying methods of presentation

Traditional Item:

Prior to his press conferences, Ronald Reagan has carefully thought out and planned answers to questions he expects to be asked by the press . however, he does not memorize exact phrasing of the answers. This type of presentational method is: (a)impromptu speaking (b) manuscript speaking (c) speaking from a technical plot outline (d) extemporaneous speaking Correct Answer: d Chapter 3 p. 47

Videotape Based Item:

In the speech you just heard, the speaker used which form of presentational method? (a) impromptu speaking (b) manuscript speaking (c) speaking from a technical plot outline (d) extemporaneous speaking Correct Answer: d Chapter 3 p. 47